GOVERNMENT OF KERALA

DEPARTMENT OF HEALTH AND FAMILY WELFARE
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Watch for warning signs:
Identify complications: Prevent dengue deaths

Febrile Phase	Critical Phase	Recovery Phase
2-7 Days	3-4 Days	6-7 Days OF FEVER

Sudden rise in temperature, biphasic, commonly associated with headache, flushing, &rash. May be pain in retro-orbital area, muscles, joints or bones

→

Plasma leakage and high haemoconcentration may develop and patient may go into SHOCK & other warning signs - Need to watch for warning signs

→

Extracellular fluid which was lost due to capillary leakage returns to circulatory system. (If fluid overload pulmonary oedema may develop at this time

Laboratory Diagnosis

1. ELISA based NS1 Antigen tests in the early viremic phase- up to 5 days
2. Igm Capture ELISA Anti-body based test, usually detectable by 5th day onwards

Monitoring for the Warning signs, High risk patients and those with co morbidities is very crucial

DF with high Risk & Co morbidities

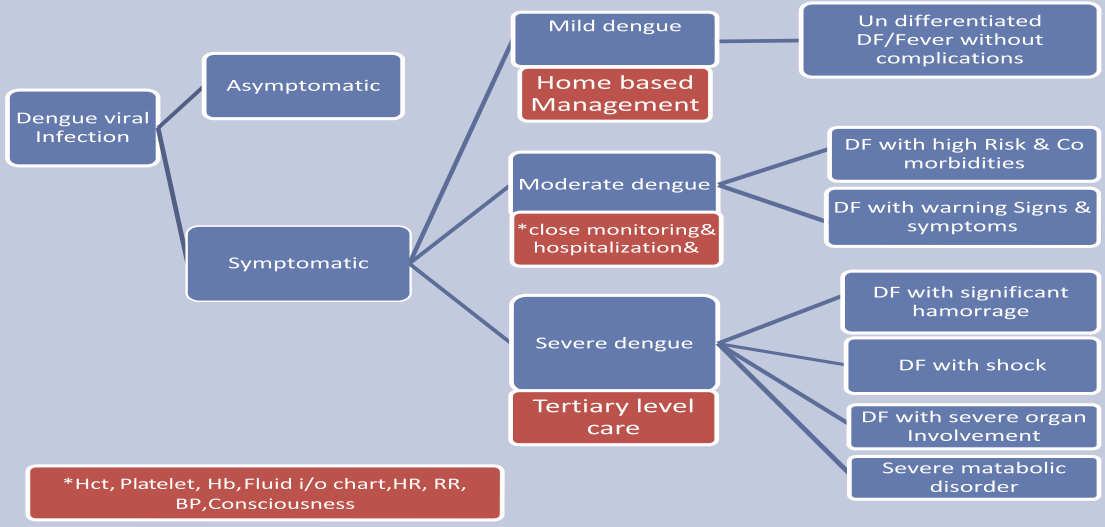
Infants, old age, diabetes, HT, Pregnacy, CAD, Haemoglobinop-athies, Immunocompromised pts. Pt on steroids, anticoagulants, immunosupressants

DF with warning Signs & symptoms

Recurrent vomiting, Abdominal Pain/ tenderness, General weak ness/lethargy/restlessness, increasing breathlessness, bleeding from any part including malena, mild pleural effusion/ ascits, Hepatomegaly, Increased HCT more than 20%

Watch for warning signs, educate patients on these and direct them to report back

Dengue Case Classification



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TREATMENT PROTOCOL FOR MALARIA

(2013 Drug Policy)

Dosage Chart for Treatment of Vivax Malaria

Age	Day 1		Day 2		Day3		Day 4 to 14
	CQ (150mg base)	PQ(2.5mg base)	CQ (150mg base)	PQ(2.5mg base)	CQ (150mg base)	PQ(2.5mg base)	PQ(2.5mg base)
Less than 1 Yr	1/2	0	1/2	0	1/4	0	0
1-4 Years	1	1	1	1	1/2	1	1
5-8 Years	2	2	2	2	1	2	2
9-14 years	3	4	3	4	1 1/2	4	4
15 years or more	4	6	4	6	2	6	6
Pregnancey	4	0	4	0	2	0	0

Note: CQ 250 mg tablet is having 150 mg base

Dosage Chart for Treatment of falciparum Malaria

Age	Day 1		Day 2		Day 3
	AS tablet (200mg)	SP tablet (750 + 37.5mg)	AS tablet (200mg)	PQ tablet (7.5mg)	AS tablet (200mg)
Less than 1 Yr	1/8	1/3	1/8	0	1/8
1-4 Years	1/4	2/3	1/4	1	1/4
5-8 Years	1/2	1	1/2	2	1/2
9-14 years	3/4	1 1/3	3/4	4	3/4
15 years or more	1	2	1	6	1

Dosage Chart for Treatment of mixed malaria (vivax + falciparum)

Age	Day 1		Day 2		Day 3	Day 3-14
	AS tablet (200mg)	SP tablet (750 + 37.5mg)	AS tablet (200mg)	PQ tablet (2.5mg)	AS tablet (200mg)	PQ tablet (2.5mg)
Less than 1 Yr	1/8	1/3	1/8	0	1/8	0
1-4 Years	1/4	2/3	1/4	1	1/4	1
5-8 Years	1/2	1	1/2	2	1/2	2
9-14 years	3/4	1 1/3	3/4	4	3/4	4
15 years or more	1	2	1	6	1	6

For Plasmodium ovale - Treatment is same as that for Pl. vivax
For Plasmodium malariae - Treatment is same as that for Pl. falciparum

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NURSING CARE OF DENGUE FEVER PATIENTS ADMITTED IN HOSPITALS

Basic manifestations

- A mosquito-free environment in hospital - All dengue fever patients to be kept under mosquito bed nets.
- Close monitoring of patient's vitals, input and output, oxygen saturation and sensorium
- Early identification of warning signs and symptoms
- Avoid NSAID and intramuscular injections
- Psychological support for patient and family.

Warning signs and symptoms

Symptoms	Signs
• respiratory distress • severe abdominal pain • persistent vomiting • altered sensorium, confusion • convulsions • bleeding from any part including malena	• rapid and thready pulse • narrowing of pulse pressure (difference between systolic & diastolic pressure) less than 20 mmHg • oxygen desaturation (SPO_2 <90%) • urine output less than 0.5 ml/kg/hr • laboratory evidence of thrombocytopenia/coagulopathy, rising Hct (Haematocrit), metabolic acidosis, derangement of liver/ kidney function tests.

Managing common problems in dengue patients

High-grade fever	- Tepid sponging/paracetamol. Encourage intake of plenty of oral fluids like rice/kanji water, fruit juices, tender coconut juice etc.
Abdominal pain	- Severe abdominal pain may be a sign of severe complication, so remain vigilant and inform the treating doctor.
Bleeding	- Estimate and record the amount of blood loss, monitor vitals and inform the doctor.
Plasma leakage	- Monitor vitals, Hct and input/output. Encourage oral intake if possible and start IV fluid as per instructions.
Shock/impending shock	- Monitor vitals, input/output, Hct and sensorium. Start IV fluids/inotropes as per instructions.

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TREATMENT GUIDELINES - SCRUB TYPHUS

ETIOLOGY

Infecting Organism

Orientia tsutsugamushi

Transmitted by: Chigger mite (bite often unidentified and painless)
Incubation period: 6-20 days.

Symptomatology

High grade fever, chills & rigor. Severe myalgia and bodyache. Intense headache. Throat pain and dry cough. Chest pain and breathlessness. Generally upper respiratory symptoms are not a feature of scrub typhus.

Clinical findings

Conjunctival congestion. Maculopapular rash.
Regional lymphadenopathy. Spleen enlargement.

Diagnostic Findings

Eschar:

It starts as an enlarging papule at the site of chigger bite, often in the concealed and moist areas of the body like axilla. inguinal region and under the breasts in case of women. Later develops in to the classical eschar which is not usually larger than 1 Cm In diameter. It has a central necrotic black scab, surrounded by a raised ring and surrounding erythema. It is usually not itchy or painful. Eschar is seen In as many as 50% of patients.

Complications

Common complications:

Pneumonit is, Myocarditis & Encephalitis.

Uncommon complications:

Shock, Acute renal failure &
Disseminated intravascular coagulation (DIC)

INVESTIGATIONS

Blood Routine Examination

" Leucopenia.
" Relative lymphocytosis.
" Thrombocytopenia.

Blood Chemistry

Liver function tests:
Serum bilirubin - mild elevation.
SGOT and SGPT- moderately elevated.
Alkaline phosphatase may be increased.
Renal function tests:
These are mually normal unless the patient develops a pre-renal or renal failure. Serial RFT values are to be done for early diagnosis.

Special Diagnostic Tests

Weil Felix Reaction:

Positive result is obtained late in the course of illness. It is not a very sensitive test. False positives and false negatives are common and hence not reliable.

Scrub antibody test:

lgM Elisa is the specific test. A single high titre of lg M antibodies with class ical clinical features is considered as a probable case.
Fourfold increase in lgM antibodies is confirmatory

Tests for detecting complications

ECG:To rule out myocarditis (Tachycardia and diffuse ST,T wave changes are suggestive of myocardit is)

Chest X-Ray: To rule out pneumonitis.
(Non-homogenous patchy opacities without air bronchogram.)

EEG and MRI: To diagnose encephalitis

TREATMENT

General Measures

Antipyretics:
Paracetamol - 500-650mg 6hrly and SOS. Avoid NSAIDs to prevent renal injury. Tepid sponging to lower the temperature. Adequate fluid intake

Antibiotic treatment

Cap Doxycycline: 100mg BD x 5-7 days
OR Tab Azithromycin: 500mg OD x 5-7 days. [Azithromycin 10 mg/kg/day, OD for children)
Azithromycin is generally the preferred drug for children <8 years and pregnant women.
Early initiation of treatment is very important. A person from known endemic area, presenting with high grade fever and chills, start treatment early even in the absence of localizing infection and eschar.
(Absence of response to doxycycline is an indication for investigating for other causes)
Cap. Rifampicin in a dose of 450 mg BD x 5-7 days can be used in resistant cases in endemic areas.

Secondary Bacterial Infections:-

Appropriate antibiotics are to be used.

Prevention: Protective clothing and use of insect repellents.

Chemoprophylaxis: Only in special circumstances Cap Doxycycline Dose: 100mg once weekly after food for 6 weeks after exposure

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